

# THE INDIAN PHONOGRAPHY

A MANUAL OF SHORTHAND ADAPTED FOR  
THE VARIOUS CLASSICAL AND  
VERNACULAR LANGUAGES  
OF INDIA

BY

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MADRAS:

LITHOGRAPHED AT THE MADRAS REVENUE SURVEY OFFICE.

1908.

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## PREFACE.

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This small book on shorthand is offered to the public with a view to satisfy the need for shorthand writing that is felt in connection with the various vernacular and classical languages current in India. The system of phonography worked out in this book in relation to Indian languages will serve not only as a means to report quickly and in brief compass the spoken speech in these languages, but will also be of use in enabling, such as want to learn one or more of these languages, to learn them well without having previously to undergo the labour of mastering a new alphabet with all its complications for every new Indian language that has to be learnt.

The use of the Roman alphabet as a common script for all the Indian languages cannot be said to have become in any degree popular; and there do not seem to be many chances of its ever becoming so popular, although it has been to some extent used in connection with Urdu, particularly for the benefit of Europeans wishing to learn that language.

In Calcutta and elsewhere in the North, an endeavour is being made to make the Devanagari alphabet serve as a common medium of writing for all the languages of India. In this Presidency, it has been thought by some that the Telugu alphabet is the most suitable one for the scriptorial representation of all the South Indian languages. How far the Devanagari and the Telugu alphabets will come to fulfil what is expected of them cannot be confidently asserted by any

one now. But if vernacular phonography becomes popular in the country, as it may well do in these days of wide-spread public speaking, it will certainly prove a boon to all learners of Indian languages. It will surely familiarise students of Indian languages with the great fact that it is possible to write these languages with the help of a single system of symbols, and will thus pave the way for the adoption of some suitable common alphabet for the whole of India. This however is neither the immediate nor the chief aim of this publication. Moreover if it be remembered that these vernaculars form the speech of the great mass of the people of India, and that—apart from the field of Indian newspapers—the vernaculars are the principal media for the conveyance of ideas, not merely in daily life, but also in relation to the business of law courts and for commercial correspondence, it cannot be hard to see that there will be important work for Indian vernacular shorthand writers in every court, in every government office, and in every Indian house of business in the country.

The use of the system of phonography herein explained is calculated to make a moderately industrious person learn fairly quickly to represent in shorthand not only the vernaculars of India but also Sanskrit which is the parent of most of them. This system is capable of as much speed in writing as any system which is now in vogue in connection with European languages, speed being however dependent in individual cases upon *practice* as is well-known to all learners of phonography.

The system of vernacular shorthand presented herein is an adaptation of Sir Isaac Pitman's splendid system of

phonography. Sir Isaac's system was specially devised for the English language; and, although he gives certain additional symbols by which it may be made more or less applicable to other European languages, there is, nevertheless, an undoubted need of a thorough reconstruction of that system so as to make it become adapted to Indian tongues. The author has spent several years in thinking the matter over, and he now offers his Manual as the fruit of his studies. He is conscious that there may be many defects in his scheme, and he will be glad to receive any suggestions for its improvement. He publishes the Manual in the belief that it contains a real and practical method of Indian vernacular phonography, which may be of service to his country, and may also be a means of livelihood to many of his fellow-countrymen; and he looks for the support of all who are interested in the subject.

Should the public receive this book with favour, it is proposed to bring out separate manuals dealing with each of the Indian vernaculars, and later on a shorthand journal in one or more of the important Indian vernacular languages, so as to furnish reading matter to students of Indian phonography.

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## THE INDIAN PHONOGRAPHIC CIRCLE

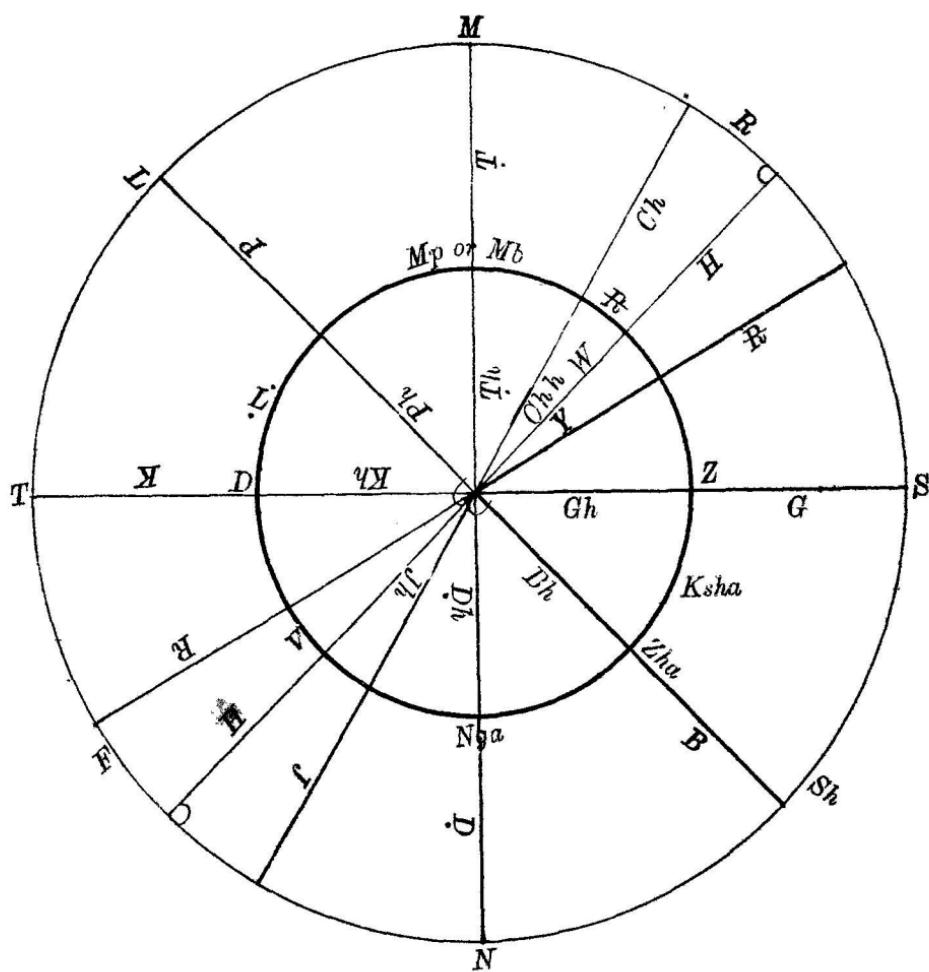


TABLE I.

Alphabets arranged in the order of the classical and vernacular languages.

# THE INDIAN PHONOGRAPHY

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## I. INTRODUCTION.

Phonography (phone: sound and grapho: I write) is the art of writing by sound. Shorthand or Stenography (stenos: brief, and grapho: I write) is the art of writing expeditiously by using abbreviations. The first principle that a phonographer should always bear in mind is that he is learning an art by which he should be able to write what is spoken out by others by taking note of the sounds of their speech. His function is simply to record the sounds he hears independently of the conventionalities of alphabetic spelling.

In studying and using a common system of phonography for all the Indian classical and vernacular languages, it must be clearly understood that the art is not intended to represent or record all the minute shades of pronunciation and the different intonations adopted by the people speaking those same languages. The alphabet provides definite signs for the sounds of the various languages. It is singularly fortunate from the standpoint of phonography that all the Indian alphabets are based on strict phonetic principles.

When a student has mastered the signification of the phonographic signs, he should always use those signs in forming the words he desires to write. Since the Indian spelling is invariably phonetic, there is sure to be a tendency to mix longhand with shorthand; this ought to be avoided by all - by the beginner more than by a trained expert. It is advisable to begin the practice of the art with a sufficiently fine pointed nib. But the student must accustom himself to write well with a pencil also. The student should hold his pen or pencil as for longhand writing but the elbow should be turned out so that the sign for *p* \ may be struck with ease. He should hold his pen or pencil

gently; the wrist must not be allowed to rest on the table or the notebook. In order to secure the greatest freedom of movement, the middle of the forearm should rest on the edge of the table, and he should place his notebook so that its edge may coincide with the edge of the table. Paper with smooth surface should be used.

At the outset the student should not attempt rapid writing. It is of the utmost importance that he should train his hand to write freely all the signs employed in the system both with accuracy and neatness before he endeavours to practise speed. If he follows this advice in the earlier stages of his shorthand practice, he will never have occasion to lament the illegibility of his phonographic writing. The course of procedure here recommended is that the rules and explanations must be thoroughly mastered at first; and then the student should practise writing regularly and continuously. The system is explained in the following pages and it can be mastered by any one who is prepared to devote the needed time, labour and attention for it. *The secret of success in every art - and especially in shorthand - is Practice.*

Before attempting to explain the phonographic symbols for the Indian Vernaculars, it is necessary to lay down the system of transliteration adopted here.

#### 1. For the Devanagiri Alphabet and others related to it:—

a अ, ा आ, i इ, ि ई, u उ, ऊ ऊ, रि ऊ, री ऊ, लु लु, लू लू, ए ए, ए ए, ai ऐ, o ओ, ओ ओ, au औ, औ, अः, h अः, k ख, kh ख, g ग, gh घ, ngu ङ, ch च, chh च्छ, j ज, jh झ, na न, t त, th ठ, d ड, dh ठ, n ण, t त, th ठ, a द, dh घ, n न, p प, ph फ, b ब, bh भ, m म, y य, r र, ा ा, l ल, l ल, v व, c श्च, sh श, s श्च, h श्च, ksha ख्च.

*Visarga (ः) is represented by h; Anuswara (ः) by m.*

In Bengali and some other languages, the *Anuswara* is pronounced as *ng*. These two are terminations of words and will generally follow a consonant followed by a vowel.

NOTE.—In Telugu and some other languages, we find a long *lu* and a hard *u* or *l*.

## 2. For the Arabic, Persian and Hindustani Alphabet:

a, ا., b, ب., p, پ., t, ت., b, بـ., t, تـ., j, ج., ch, چ., h, ه., kh, څ., d, د., d, ڏ., z, ڙ., r, ر., ڙ, ڙ., z, ڙ., zh, ڙـ., s, سـ., sh, شـ., c, ڦـ., a (Strong Guttural) عـ., gh, غـ., f, فـ., q, قـ., k, کـ., g, گـ., l, لـ., m, مـ., n, نـ., w or v, وـ., h, هـ., ڻـ., y, etc. ڻـ..

*Tanwin* is represented by *n*, thus فُورٌ *fauran*. *Alif-i maqsura* is represented by *h* —; thus حَدَّ *da'wā*.

### 3. For the Tamil Alphabet:

The Tamil alphabet is also used for writing Sanskrit. Separate signs for the Sanskrit sounds wanting in the Tamil Alphabet are then added and this fuller alphabet is known as Grantha Characters which are mostly used in Tamil countries for the Sanskrit Language. Some of the additional signs are commonly used in ordinary Tamil, in words borrowed from foreign languages. They are:—

*sh, ശ. s, സ്. j, ജ്. ksha, ക്ഷാ. h, ഹ്.*

The Arabic *K* is a strong Guttural and has been represented by *Q* (*khof*). It should be noted that aspirated consonants are common, and in particular *dh* and *th* (except in Burmese) never have the sound of *th* in 'thin' or 'this,' but should be pronounced as in 'Woodhouse' and 'Boathook'. In the Arabic, Persian and Hindustani Languages, a final silent *h* is not transliterated. Vowels when not pronounced at

the end of a word, are not written in transliteration. Thus बन् बन् *ban* not *bana*. When not pronounced in the middle of a word or only slightly pronounced in the middle or at the end of a word, they are written in small characters above the line. Thus *Hindi* है सत्ता *dekh<sup>a</sup>ta*, pronounced *dekhta*.

4. Special letters peculiar to special languages are indicated by the corresponding ordinary consonantal signs of the respective languages. The following more important instances may be noted:

(a) That the peculiar sounds found in Marathi, Telugu and elsewhere soft *ch* (*ts*) and soft *j* (*dz*) are represented by / *ch* and / *j*; and their aspirated sounds soft *chh* (*ths*) and soft *jh* (*dhz*) are represented by *chh* and *jh*. (/, /).

(b) The following letters are peculiar to Sindhi:

bb, ٻ, bh, ٻڻ, th, ڻ, t, ڻ, th, ڻ, ph, ڻ, jj, ڻ,  
 jh, ڦ, chh, ڦ, n, ڦ, dh, ڦ, d, ڦ, dd, ڦ, dh, ڦ,  
 k, ڦ, kh, ڦ, gg, ڦ, gh, ڦ, ڦ, ڦ, n, ڦ, ڦ, ڦ,

and these also are represented by the corresponding ordinary signs for the corresponding letters.

(c) The following examples will indicate the sounds that occur in writing the languages phonographically:—

#### VOWELS AND DIPHTHONGS

*a* represents the sound of *a* in hat or woman.

<i>a</i>	do.	<i>a</i>	Father
<i>i</i>	do.	<i>i</i>	pin.
<i>î</i>	do.	<i>î</i>	feel
<i>u</i>	do.	<i>u</i>	bull
<i>û</i>	do.	<i>û</i>	fool
<i>e</i>	do.	<i>e</i>	grey
<i>ê</i>	do.	<i>ê</i>	Sale
<i>ai</i>	do.	<i>ai</i>	Mine

<i>o</i>	represents the sound of <i>o</i> in the first <i>o</i> in promote
<i>ō</i>	do. <i>ō</i> bone, or gold
<i>au</i>	do. <i>au</i> house

## CONSONANTS.

<i>K</i>	as in	Cat
<i>Kh</i>	Aspirated form of K (as nearly as in Inkhorn)	
<i>G</i>	as in	Go
<i>Gh</i>	aspirated form of G (as nearly as in Leghorn)	
<i>Nga</i>	as in	Angle.
<i>Ch</i>	„	Choice.
<i>Oh</i>	aspirated form of Ch. (as nearly as in Hitchcock)	
<i>J</i>	as in	Jam.
<i>Jh</i>	aspirated form of J.	
<i>Na</i>	as in	Inch or the first <i>na</i> Gnana.
<i>T</i>	„	Tin.
<i>Th</i>	aspirated form of T.	
<i>D</i>	„	Do.
<i>Dh</i>	aspirated form of D.	
<i>Na</i>	„	Round
<i>T</i>	„	Thin.
<i>Th</i>	aspirated form of T.	
<i>D</i>	„	Tban.
<i>Dh</i>	aspirated form of D.	
<i>N</i>	„	Nine, Not.
<i>P</i>	„	Pat.
<i>Ph</i>	aspirated form of P.	
<i>B</i>	„	Band.
<i>Bh</i>	aspirated form of B.	
<i>M</i>	„	Mine.
<i>Y</i>	„	Yet.
<i>R</i>	„	Room
<i>R</i>	„	Miracle.
<i>L</i>	„	Lame.

<i>L</i>	as in	Black
<i>F</i>	„	Fine.
<i>V</i>	„	Vast.
<i>C</i>	„	Siva.
<i>S</i>	„	Sand
<i>Sh</i>	„	Fish.
<i>H</i>	„	Ham.

*Zha* is a peculiar Dravidian Sound as in *Ambalapuzha*. In English the corresponding sound is as in *Pleasure, Measure*.

*Ksha* is a Sanskritic sound appearing in almost all the Vernaculars as in *Paksha*.

<i>Ng</i>	as in	Sing.
<i>Mp</i> or <i>Mb</i>	„	Pomp, Bomb.
<i>Mph</i> or <i>Mbh</i>	„	Nymph, Rambha
<i>Mh</i>	„	Simha
<i>Q</i>	„	Quality.
<i>Gw</i>	„	Gwalior.

NOTE:—In Burmese and in some other languages, *au* has the vowel sound in 'law' and *w* after a consonant has the force of *uw*. It should be noted that whereas in Indian words the accent or stress is distributed almost equally on each syllable, in Burmese there is a tendency to throw special stress on the last syllable. *Ri* and *Lu* and their long vowels, although for the sake of completeness, are included in the list of characters, they are not very frequently used in the ordinary languages.

## II. THE ALPHABET.

The first requirement of a complete alphabet of every language is that each separate sound of the language should be represented by a distinct character. The Indian Vernacular languages fulfil this condition unlike the English Language. It may be said that the Tamil alphabet is defective, but the Grantha characters are frequently used to supply the defect. From the table of the languages given (Table I) it will be seen that consonants vary from 23 to 35, and vowels from 12 to 16 in the different Indian Vernacular and Classical Languages.

All voice sound is produced by the passage of the breath out of the wind-pipe through the larynx and on the vocal chords. The vocal chords hang slack while the wind-pipe is used simply for breathing; but while speaking, these chords are opened out and tightened and the current of air striking on them causes them to vibrate and resound. When the chords are only partially extended, the sound produced is a whisper.

When the stream of sound thus produced is allowed to pass freely out, we get what is called a vowel. All simple vowel sounds are continuous *i.e.*, they may be indefinitely prolonged if the organs of speech are kept in the same position. Consonants are other articulate sounds which are produced by playing upon the current of the voice by one or other of the organs of speech. In some the current is momentarily arrested, the sound being evolved by liberating the current. In others, without being arrested, it is more or less obstructed; and the sound derives a peculiar character from being forced through a narrow passage.

### CONSONANTS.

For the representation of all the consonantal signs, the simplest geometrical forms are used, namely straight lines or curves. The order of the alphabetical arrangement of each group of consonants

in the Indian Languages (except Arabic, Persian, and Hindustani) follows that of the oral movements from the throat forwards (and not from the lip backwards as in Sir Isaac Pitman's system) in the utterances of their respective sounds. (Vide Table I.)

Inasmuch as each group of consonants is represented by kindred sounds, a natural relation is preserved between the signs also. Throughout this system whatever relates to the light sounds relates also to the corresponding heavy sounds. A full-sized consonant should be written about one-sixth of an inch long and particular care should be taken to write full length or half length and thin or thick strokes.

Consonants are divided into two classes according to:—

(i) the degree of effort required in pronunciation—the hard consonants and the soft consonants;

(ii) the organs of pronunciation.

The articulation of these pairs of soft and hard consonants is the same, but the sound is light in the first and heavily aspirated in the second consonant of each pair. Each pair of consonants is represented by similar strokes but that chosen for the heavy aspirated one is written half the size of the light one. Thus:—

k — , kh — , g — , gh — ,  
 ch / , chh / , j / , jh / ,  
 t | , th | , d | , dh | ,  
 t ( , th ( , d ( , dh ( ,  
 p \ , ph \ , b \ , bh \ ,  
 nga ~ , na ~ , n ~ ; n ~ , m ~ ,  
 y ~ , r ~ / , z ~ / , l ~ , l ~ .  
 v ~ ( , s ~ ) , c ~ ) , z ~ ) , sh ~ ) , zh ~ / ;  
 ksha ~ , zha ~ , f ~ , q ~ , gw ~ ,  
 mp or mb ~ , mph or mbh ~ , mh ~ .

It must be noted that every character of the alphabet of the Indian vernaculars has a constant and fixed value and this value never changes. The whole of the alphabet is constructed from strokes arranged according to the nature of the sounds they represent. This alphabet is rational and is based on principles exactly similar to those of Sir Isaac Pitman's system which is spoken of as based on correct and logical principles. From Table II it will be seen that the order of the alphabetical arrangement is changed. This is due to the fact that in the best recognised system of shorthand in the world, the alphabet is so arranged and the sound passes from the lip backwards in the natural order of the organs of speech. Hence the following order of the groups of characters are introduced:—

<i>p</i> \ , <i>ph</i> \ , <i>b</i> \ , <i>bh</i> \ .	Explodents.
<i>ch</i> / . <i>chh</i> / , <i>j</i> / , <i>jh</i> / .	
<i>t</i>   , <i>th</i>   , <i>d</i>   , <i>dh</i>   .	
<i>k</i> — , <i>kh</i> — , <i>g</i> — , <i>gh</i> — ..	

<i>f</i> ( ; * . <i>v</i> ( .	Continuants.
<i>t</i> ( ; <i>th</i> ( . , <i>d</i> ( . , <i>dh</i> ( .	
<i>s</i> ) , <i>c</i> ) , <i>z</i> ) .	
<i>sh</i> ) , <i>ksha</i> ) , <i>zha</i> ) .	

*m* ~ , *n* ~ , *ɳ* ~ , *nga* ~ , *na* ~ ... Nasals.

*l* ( , *l* ( , *r* \ / , *r* \ / . ... Liquids.

*w* / and *y* / ... Coalescents.

*h* / / ... Aspirate.

<i>q</i> <u>—</u> , <i>gw</i> <u>—</u>	Additional Consonants.
<i>mp</i> or <i>mb</i> <u>—</u> <i>mph</i> or <i>mbh</i> <u>—</u> and <i>mh</i> <u>—</u>	

These characters are so arranged that a light sign is given to represent a light sound and a heavy sign to represent a heavy sound.

The first set is called Explodents because when these are pronounced the voice explodes i.e.,- the breath goes out suddenly with much pressure or labour of the voice. The arrangement of each series of consonants follows the physiological order of the organs producing the series.

The first four consonants of the first set: *p* \, *ph* \, *b* \, *bh* \, are pronounced between the lips, and the next three sets of four consonants each i.e.— *t* |, *th* |, *d* |, *dh* |; *ch* /, *chh* /, *j* /, *jh* /; *k* —, *kh* —, *g* —, *gh* —, are pronounced at the several barriers further back in the mouth in succession.

The second set of consonants follows the same principle but with a different method of pronunciation. They are called continuants because when we pronounce them the breath, instead of suddenly being made to escape with much pressure of the organs of speech as in the case of the explodents, is made to escape in a gentle flowing current without any exertion. The second series consists of curved characters because when pronouncing *F* \, *V* \, etc, the tongue shapes itself into a sort of curve.

Following the physiological order already indicated:—  
*f* \, *v* \, *t* (, *th* (, *d* (, *dh* (, *s* ), *c* ), *z* ), *sh* ), *ksha* ), and *sha* ) are pronounced from the lips backwards at the several barriers further back in the mouth in succession.

The third series of consonants are called Nasals, because the sounds are produced through the nose by closing the successive barriers in the mouth *m* —, *n* —, *ɳ* —, *na* —, and *nga* —.

The fourth series *l* (, *l* (, *r* ) /, *r* ) / are called Liquids, because they easily combine with other letters and form consonantal diphthongs.

The fifth series *w* / and *y* / are called Coalescents, because they join with vowels very easily.

The sixth set is the Aspirate *h* / *h* which is simply the breathing upon the vowel that immediately follows it. It can be written upwards or downwards.

The seventh set  $q$   $\sim$ ,  $gw$   $\sim$ ,  $mp$  or  $mb$   $\sim$   
 $mph$  or  $mbh$   $\sim$ , and  $mh$   $\sim$  are called the additional  
 consonants.

## EXERCISE.

Note.—The exercise must be carefully written out several times, the name of each shorthand character being pronounced aloud as it is being written. If the beginner cannot produce a copy at the first trial, he must write the page several times and vary the practice by writing the letters in an irregular order.

→ Shows the direction in which the consonant is to be struck.

S, C, Z, ፳ ፲ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳

Sh, Ksha, Zha, ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳

M, ፳

Mp or Mb, ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳

Mph, Mbh, ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳

Mh, ፳

N, N, ፳

Nga, Na, ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳

L, L, ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳

R, R, ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳

W, Y, ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳

H, ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳

Q, Gw, ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳ ፳

One significant feature of the whole of the phonographic alphabet is that except *q* ፳ *gw* ፳ *w* ፳ and *y* ፳ every other letter is formed out of a simple stroke. Two similarly slanting strokes are given to represent *ch* ፳ *j* ፳ *r* (upward) ፳ *s* (upward) ፳. They may at first seem to be confusing to the mind of the beginner; but after a few days' practice of the art, the solution of the mystery will be very easy. For :—

(i) *ch* ፳ or *j* ፳ is always written downward and *r* ፳ or *s* ፳ is always written upward,

(ii) *ch* ፳ or *j* ፳ is more slanting towards the perpendicular and *r* ፳ or *s* ፳ more towards the horizontal. In fast writing, it is impossible to distinguish the characters by actual geometrical measurement, but the safest test is whether the stroke is written upward or downward.

## JOINING OF CONSONANTS.

Some simple principles in joining the consonants must be observed. In ordinary writing, all the letters for a word are written continuously. In the same way, in phonography also, there should be no break between two, three or more consonants occurring in a word. Ex:—

— The next point is that, when consonants are joined, they should be written in the same direction, the upstroke must always be written upward and the downstroke must always be written downward. Ex:—

— *l, k, n*, but *l l l* ( *sh* ) *ksha* ) and *zha* ) can be written either upward or downward in order that facile outlines may be formed. Ex:—

— *l, k, n, t, r, c, t, n, l, s, r, t*.

The principles to be observed regarding the writing of these letters upward or downward, will be explained later.

There are four important principles in the combination of consonants. They are:—

(i) An ascending stroke beginning a combination should commence on the line. Ex:— *l, k, n, t, r, c*.

(ii) The first descending stroke usually rests on the line. Ex:— *l, k, n, t, r, c, t, n, l, s, r, t*. We say usually because when the first descending stroke in a word is followed by *n* *n* *na* or *nga* it does not rest on the line. Such as *pani* *bhong* etc.

(iii) A horizontal stroke followed by an ascending stroke is written on the line. Ex:— *l, n*

(iv) When a full-sized straight consonant running in the same direction is repeated, there must be no break between the two letters. Ex:— *pp* *bb* *tt* *dd* *chch*

gg — rr (upward) but when a full and a half sized straight consonant of the same thickness follows the same consonant inversely, they should be written disjoined. Ex:— \\, \\\, \\\, \\\, \/, \/, \/, \/.

Curved consonants, when repeated, are written without lifting the pen and in the same direction. Ex:— \~, \~, \~, \~

### VOWELS AND DIPHTHONGS.

Consonants by themselves cannot be of any use without the help of vowels or diphthongs. These are pronounced as single sounds. Consonants are simply like the limbs of a body without a spark of life. This spark is represented by a dot. The simple vowels are of two kinds - short and long. The principle adopted in recording consonants is that light sounds are represented by light signs and heavy sounds by heavy signs. The same principle is adopted in the case of vowels also, namely that a light sign is given to represent a short sound, and a heavy sign is given to represent a long sound. The difference between the long and the short vowel is that short vowels are pronounced rapidly and long vowels are pronounced with a continuous voice and in doing so they must be pronounced as single sounds.

#### Vowels.

SHORT.	LONG.
a   (1)	ā   (1)
i   (2)	ī   (2)
u   (3)	ū   (3)
ri > (2) or (3)	īr > (2 or 3)
lu > (2) or (3)	ūl > (2 or 3)

A diphthong is the union of two vowels sounded as one syllable. The diphthongs are of two kinds: *monosyllabic* and *dissyllabic*. Each

sign of the dissyllabic series represents a diphthong composed of a long vowel with an unaccented short vowel immediately following it.

	SHORT.	LONG.
Diphthongs.	Monosyllabic.	$e$   (1) $\bar{e}$   (1) $o$   (2) $\bar{o}$   (2) $ai$   (1) $\bar{ai}$   (1) $au$   (3) $\bar{au}$   (3)
	Dissyllabic.	$\bar{e}-i$   (1), $\bar{o}-i$   (2) $\bar{i}-i$   (2), $\bar{u}-i$   (3)

The above order of the vowels and the diphthongs must be noted. The dots and dashes representing them are numbered 1, 2, 3 and they are called the first-place, the second-place, and the third-place vowels or diphthongs.

The Anuswara is represented by a small light dash and the Visarga by a small heavy dash in the third place.

#### POSITION OF VOWELS AND DIPHTHONGS.

It will be seen from the above that :—

(1) The first place Vowels are :— $a$ ,  $\bar{a}$ ,

„ „ Diphthongs are :— $e$ ,  $\bar{e}$ ,  $ai$ ,  $\bar{ai}$ ,  $\bar{e}-i$ ,

(2) The second place Vowels are :— $i$ ,  $\bar{i}$ ,

„ „ Diphthongs are :— $o$ ,  $\bar{o}$ ,  $\bar{i}-i$ ,  $\bar{o}-i$ ,

(3) The Third place Vowels are :— $u$ ,  $\bar{u}$

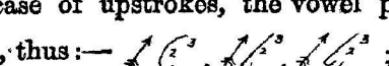
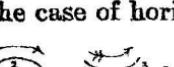
„ „ Diphthongs are :— $au$ ,  $\bar{au}$ ,  $\bar{u}-i$ ,

$ru$ ,  $\bar{ru}$ , and  $lu$ ,  $\bar{lu}$  are written in the second or third places.

A thin dot is given to represent a short vowel and a thick dot a long vowel; for  $ri$ ,  $\bar{ri}$ , and  $lu$ ,  $\bar{lu}$  separate symbols are given.

A thin dash is given to represent the short sound of *a* or *o*, and a thick dash to represent the long sound of *ā* or *ō*. For *ai*, *āi*, *au*, *āu*, *ē-i*, *ē-i*, *ō-i* and *āu-i* separate symbols are given.

As there are no vowels or diphthongs proper which can be represented by a dash in the third place, the thin dash is given to represent the Anuswara (ṁ) and the thick dash is given to represent the Visarga (ṁ). The Anuswara is a nasal sound and the Visarga is a strong sibilant.

It will be clearly seen that there are three distinct positions at the side of each consonant where the vowel or diphthongal signs may be placed. A vowel can be added to any consonant before or above and after or below a consonant in three positions, viz., at the beginning, at the middle, and at the end of each consonant. They are counted from the point where the consonant begins. In the case of downstrokes, the vowel places count from the top downwards, thus:—  ; in the case of upstrokes, the vowel places count from the bottom upwards, thus:—  ; and in the case of horizontal strokes from left to right, thus:—  .

The vowel or diphthongal signs are put in places which correspond with their numbers given in the table. Thus *pa* \, *pi* \, *pu* \, &c.

The vowel and diphthongal signs must be written at a little distance from the consonant. The dash signs may be written at any angle that is distinct, the right angle generally being most convenient. Thus *p-a* \, *p-i* \, *p-u* \, *p-e* \, *p-o* \, *p-āu* \, etc.

When a vowel is placed on the lefthand side of a perpendicular or sloping consonant, it is read before the consonant: *a-p* \, *ā-p* \, *i-p* \, *ī-p* \, *u-p* \, *ū-p* \, &c.

When a vowel is placed on the righthand side of a perpendicular or sloping consonant, it is read after the consonant: *p-a* \, *p-ā* \, *p-i* \, *p-ī* \, *p-u* \, *p-ū* \, &c.,

When a vowel is placed above a horizontal consonant, it is read before the consonant:— *a-k* , *ā-k* , *i-k* , *ī-k* , *u-k* , *ū-k* , *a-m* , *a-n*  &c., and when a vowel is placed below a horizontal consonant, it is read after the consonant:— *k-a* , *kā* , *m-a* , *mā* , *n-a* , *nā*  &c.,

**A vowel before a Consonant:**—         

**A vowel after a Consonant:**—         

While writing, the student should strike the consonant first and then fill in the vowel in its proper place. A first place vowel or diphthong—long or short—occurring between two consonants occupies the first position of the first consonant. Thus:— *p-a-m* , *pā-m* , *l-e-m* , *tā-m*  &c.

A second place short vowel or a short diphthong occurring between two consonants is written before the second consonant. Thus:— *p-i-k* , *pō-k* , *pō-g*  &c.

A second place long vowel or a long diphthong occurring between two consonants is placed after the first consonant: Thus:— *pī-k* , *pō-k* , *pō-g*  &c.

All third place vowels and diphthongs are placed before the second consonant. Thus:— *k-u-p* , *kāu-p* 

**NOTE.**—The third place dash signs for Anuswara and Visarga do not occur between two consonants. They occur only finally and at the end of words.

The diphthongs *ai* and *āi* are always placed in the first position and *au* and *āu* in the third position. Thus:— *p-ai* , *pāi* 

### III CONJUNCT CONSONANTS.

In all the Indian vernaculars we very often find many conjunct consonants, the secondary consonants closely uniting or blending together with the primary consonants without any intervening vowel thus forming consonantal diphthongs such as *twa*, *tya*, *kla*, &c. In pronouncing these, the combination of a secondary consonant with a primary consonant is uttered by a single effort of the organs of speech without the help of an intervening vowel. There is no secondary hard consonantal sound to a primary hard consonant, as *kh-kh*, *gh-gh*, *kh-ph*, *gh-ph*, &c.

• A full sized consonant when written double its length indicates the repetition of the same consonant with the existence of the intervening vowel or diphthong, as *k* + vowel or diphthong + *k* — —, *g* + vowel or diphthong + *g* — — &c.

A half sized curved consonant when repeated is written without lifting the pen and in the same direction, as

A half sized straight consonant cannot be repeated as it will give rise to ambiguity, as *\+ \* cannot mean *bh* + vowel or diphthong + *bh* but it will only mean the consonant *b* \

The following symbols are given to represent the secondary consonants:—

<i>t</i> ,	<i>th</i> ,	<i>d</i> ,	<i>dh</i> ,	is represented by	<i>v</i>
<i>ch</i> ,	<i>chch</i> ,	<i>j</i> ,	<i>jh</i> ,	do.	<i>&gt;</i>
<i>k</i> ,	<i>kh</i> ,	<i>g</i> ,	<i>gh</i> ,	do.	<i>c</i>
<i>t</i> ,	<i>th</i> ,	<i>d</i> ,	<i>dh</i> ,	do.	<i>n</i>
<i>y</i> ,				do.	<i>u</i>
<i>f</i> ,	<i>v</i>	or	<i>w</i> ,	do.	<i>l</i>

<i>m</i> ,	is represented by		✓	
<i>nga</i> ( <i>ng</i> + <i>k</i> or <i>ng</i> + <i>g</i> )	{		✓	
or	do.		✓	
<i>na</i> ( <i>n</i> + <i>gya</i> ),	{		✓	
<i>sh</i>	or	<i>zha</i> ,	do.	
<i>s</i> ,	<i>o</i> ,	<i>z</i> ,	is represented by a small circle added initially or finally to a stroke consonant.	
<i>ct</i> ,	<i>cht</i> ,	<i>st</i> ,	<i>sht</i> ,	is represented by a loop, half the size of a consonant, added initially or finally to a stroke consonant.
<i>ctr</i> ;	<i>chtr</i> ,	<i>str</i> ,	<i>shtr</i> ,	is represented by a loop, two-thirds the size of the consonant, added finally to a stroke consonant.

These consonantal signs except the circle and the loops may be added to the primary consonants like the vowels.

If the secondary consonant is placed in the first position after the primary consonant, it represents the addition of *a* or *ā*; in the second position of *i* or *ī*; and in the third position of *u* or *ū*. The circle and the loops may be joined initially or finally to the primary consonants.

If a conjunct consonant is followed by any other consonant, the secondary consonantal sign is placed after the first consonant if it contains a first place long or short vowel or a second place long vowel, and before the second consonant if it contains a second place short vowel or any third place vowel. The diphthongal, Anuswara, and Visarga signs should be indicated separately, after or close to the secondary consonantal sign which should be written in the position in which the dash vowel is to be placed. Thus:— *tyakta*  $\text{^}$ , *jyēshṭa*  $\text{^}$ , *jyōti*  $\text{^}$  &c. In good many instances, it will be found easy and facile to add the secondary consonantal signs at the end of the primary consonants when such joining causes no ambiguity with regard to position of the vowels as in *Rukmani*  $\text{^}$ .

The third place dashes for *Anuswara* and *Visarga* must be separately shown.

Till now it has been dealt with only a few conjunct consonantal signs for certain letters only. There are some more which follow a different method altogether. The following symbols are used for some other secondary consonants. As far as Phonography is concerned, we find many big compound words in these vernaculars which are mostly the Sanskritic words and every method should be employed to minimise the length of the outlines.

### P, Ph and B, Bh.

*p, ph, b, bh* is represented by a large final hook : *kpa*   
*kphā*  &c.

This hook is written finally inside the curves and on any side of straight strokes. Thus:— *t+p* , *sh+p* , *t+p*  or .

This hook may be used medially when it can be joined to the following stroke. Thus:— *t+p+b* , *p+p+r* .

In the case of curves to the right, it will not be convenient to use this hook medially. The vowels following this double consonantal series are always read last.

### N and N̄.

*n, n̄* is represented by a small final hook *kna*  *tna*  &c.

Regarding the use of this hook, the rules for the big hook govern. These final small and big hooks may be used medially when they can be joined to the following strokes easily and distinctly without retarding the flow of the hand, and produce more legible and more facile outlines than the stroke forms. The small circle for *s* or *c* may be added to these hooks by writing the circle inside the hooks. Thus:— *p+n+s*  or , *v+n+s* .

When *n* or *n̄* follows the circle *s* or *c*, it is expressed by continuing the circle on the other side of the consonant so as to form a small

back hook. Thus:—Jyōtsna.  etc. First place vowels need not be noted; but the second place vowels between the circle and the *n* or *n* are written outside the hook and the third place vowels are written inside this hook.

### L, L and R, R.

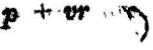
*l, l, and r, r.* A small initial hook written towards the right to the straight consonants *p, ph, b, bh, t, th, d, dh, ch, chh, j, jh, k, kh, g, gh* adds *r* or *r* and a small initial hook written towards the left to the same consonants adds *l* or *l*. Thus:—*pra*  *pla*  &c.

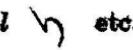
It should be noted that *w* and *y*, and *l, l, r, r, &*, and *h* (both upward and downward) are exceptions and they do not allow of these initial hooks. With regard to the vowel positions and their reading they are the same as with simple consonants.

As it is not possible to add the initial hooks on both sides to curves in the same way as to the straight strokes and as there is only one side available in the case of curves (*i.e.*, inside only), the best way of representing *r* or *r* to curved consonants is by giving a small initial hook and of representing *l* or *l* is by giving a big initial hook to the curved consonants *f, v, t, th, d, dh, sh, zha* and *ksha, m, n, n, na, nga, mp* or *mb mph* or *mbh* and *mh*. Thus:—*fr*  *vr*  *shl*  &c. It should be noted that *c, s, z, r* or *r* (downward) are not hooked initially. Therefore they are used as extra forms to represent *fr, vr* *tr, thr, dr, dhr*, or *fl, vl, tl, thl, dl, dhl*. Thus:—*fr*  *fl*  *vr*  *vl*  *tr*  *tl*  &c.

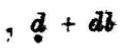
The duplicate forms hooked for *l* and *l*, or *r* and *r* should be used only when they follow any consonant and are most conveniently joined to *p, ph, b, bh, k, kh, g, gh, n, n, na, nga*, and to any straight upstroke such as *h, w, y*, and the upward *r* or *r, l* or *l, sh, ksha, zha*. Thus:—*p-tr*  *k-tr*  etc.

The righthand forms should be used when joined to other consonants when they precede or follow a straight stroke written

towards the right or a righthand curve. Thus:—  $p + vr$  

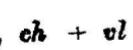
$p + vl$  

etc.

When *tr*, *thr*, *dr*, *dhr*, etc., precede or follow perpendicular straight strokes, the righthand forms are used, as either form joins easily. Thus:—  $t + thr$  

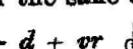
$d + dr$  

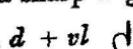
etc.

The lefthand forms should be used when they precede or follow a straight stroke written towards the left or a lefthand curve. Thus:—  $ch + vr$  

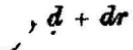
$ch + vl$  

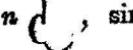
etc.

The lefthand forms are to be used when they precede or follow perpendicular straight strokes for the sake of a sharp angle or for the sake of a perfect hook. Thus:—  $d + vr$  

$d + vl$  

etc.

Either form, which produces the sharpest angle between the two consonants, may be used in preference to an awkward joining. Thus:—  $t + tr + n$  

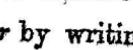
$d + dr + n$  

since   will retard the hand.

From the above it may be summarised that the three most important principles to be observed when using the righthand or the lefthand forms of *tr*, *thr*, *dr*, *dhr* series are: (1) *sharp angles*, (2) *perfect hooks*, (3) *similar motion*. These three principles should always be very clearly borne in mind in the formation of outlines.

**NOTE.**—When this hook and a circle cannot be shown clearly or when it interferes in any way with the above three principles full forms must be written. The vowel symbols for *ri*,  and *lu*,  may be used as conjunct consonantal symbols for *r*,  and *l*,  respectively whenever facile outlines may be formed. No circles can be added to *ch* hooked for *r* as they will clash with the circle of the downward *h*.

Circle *s* may be added to straight consonants hooked for *l*, and to curved consonants hooked for *l* or *l* and *r* or *r* by writing the circle inside the hooks. Thus:—  $s + pl$  

$s + tr$  

etc.

The circle *s* is prefixed to straight consonants *p*, *ph*, *b*, *bb*, *t*, *th*, *k*, *kh*, *g*, *gh* hooked for *r* by writing the circle on the same side as the hook and by converting the hook into a circle. Thus:— *s + tr* ፩, *s + pr* ፻, *s + dr* ፪ &c.

When circle *s* and the initial hook for *r* or *tr* and *l* or *l* occur medially at an angle, both the circle and the hook must be separately shown, (Thus:— *p + s + tr* ፻, *p + s + kl* ፻) and when a straight stroke hooked for *r* follows another straight stroke written in the same direction. Thus:— *p + s + pr* ፻, *t + s + tr* ፻ &c.

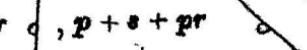
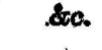
The method of representing *skr*, *skhr*, *sgr*, *sghr*, after *p*, *ph*, *b*, *bh*, *t*, *th*, *d*, *dh*, *ch*, *chh*, *j*, *jh*, is by writing the *p*, *ph*, etc, first and then adding the *k*, *kh*, *g*, or *gh*, with the circle *s* written on the righthand side. Thus:— *t + s + kra* ፻, *th + s + kra* ፻, *t + s + khra* ፻ &c.

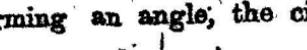
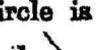
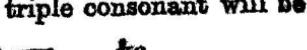
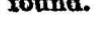
### S, C, and Z.

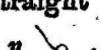
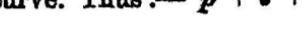
An easy means for joining *c*, *s*, or *z* with another consonant is represented by a small circle. This circle may be used as a primary consonant also. This circle is written with the left motion and is joined either initially or finally to straight strokes and with the righthand or lefthand motion to curves. In the case of the curves, the circle is written inside them. The principle of reading to be observed is that the circle, if initially used, is read first and if finally used, it is read last. Thus:— *s + t* ፩, *t + c* ፻ &c. If medially used, it is read after the preceding consonant. Thus:— *t + c + t* ፻, *p + s + ch* ፻ &c.

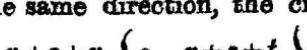
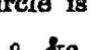
The circle is written with the left motion when it is joined to a straight consonant not forming an angle. If the circle is written with the right motion and joined to straight consonants the forms will represent the triple consonants, *spr* ፻, *sbr* ፻, *str* ፩ &c.

Between two straight strokes running in the same direction, the circles is written with the left motion. Thus:— *t + s + t* ፻,

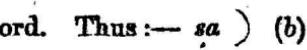
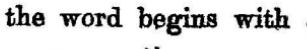
$p + s + p$  etc. If written with the right motion, it indicates a triple consonant. Thus:—  $\ddot{s} + s + \dot{tr}$   ,  $p + s + pr$   &c.

Between two straight strokes forming an angle, the circle is written outside the angle. Thus:—  $\ddot{s} + s + k$   ,  $p + s + k$   etc. If written inside the angle, a triple consonant will be found. Thus:—  $\ddot{s} + s + kr$   ,  $p + s + kr$   &c.

Between a straight stroke and a curve, or a curve and a straight stroke, the circle is written inside the curve. Thus:—  $p + s + v$   ,  $v + s + p$   , etc.

Between two strokes running in the same direction, the circle is written inside the first curve. Thus:—  $v + s + v$   ,  $v + s + t$   &c.

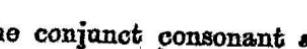
Between two curves written in opposite directions and not forming a distinct angle the circle  $s$  is written inside the second curve  $v + s + l$   ,  $sh + s + v$   &c.

The stroke consonants for  $c$ ,  $s$  or  $z$  should be used (a) when  $c$ ,  $s$  or  $z$  is the only consonant in a word. Thus:—  $sa$   (b) when the word begins with a vowel immediately followed by  $s$ ,  $c$  or  $z$  Thus:—  $Assam$   and (c) when the word begins with  $c$  or  $s$  and followed by another  $s$  or  $c$ . Thus:—  $Sasta$  .

### St, Str, &c., Series.

$st$  etc. and  $str$  etc. occur both at the beginning and at the end of words. These loops are not written initially with the right motion to any of the straight letters. These loops may be employed medially also when an easy joining and a distinct outline may be secured.

### Double circle Cc, Cs, Ss, Sc, Sw or Sv.

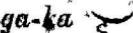
A large initial circle represents the conjunct consonant  $sw$ ,  $cw$ ,  $cs$  or  $sv$ . Thus:—  $Swaraj$   If it is written with the right motion and added to straight consonants, it represents the presence

of *r* in the stroke consonant. Thus:—Swaprathishta  etc. This double circle when medially or finally used represents the presence of two *ss*, *cc*, *sc* or *cs* with or without an intervening vowel. Thus:—Niccabdam,  etc. This circle must not be written inside any of the hooks.

There are five more additional consonants and they are *q*, *gw*, *mp* or *mb*, *mph* or *mbh*, and *mh*. *q* and *gw* admit of only the final hooks and none of the initial hooks, or the initial loops. They admit of the initial circle *s* only: *mp* or *mb* series admit of both the initial and final loops, hooks or circles.

## EXERCISE.

It is desired that the student should first write each stroke consonant and add every conjunct consonantal sign and then write it over and over again repeating the sound while writing until he perfectly becomes familiar with it.

<i>g-ya</i> 	<i>t-s-na</i> 	<i>k-t-v-ya</i> 	<i>nga-ka</i> 
<i>s-t-va</i> 	<i>h-ma</i> 	<i>h-ya</i> 	<i>r-ya</i> 
<i>g-r-ya</i> 	<i>p-ra</i> 	<i>d-ra</i> 	<i>k-ka</i> 
<i>k-kha</i> 	<i>k-ta</i> 	<i>k-na</i> 	<i>k-ma</i> 
<i>k-ya</i> 	<i>k-ra</i> 	<i>k-la</i> 	<i>k-va</i> 
<i>k-t-va</i> 	<i>k-t-ya</i> 	<i>k-t-ra</i> 	<i>k-ca</i> 
<i>k-c-ma</i>  or 	<i>k-c-ya</i>  or 	<i>k-c-va</i>  or 	<i>kh-ya</i> 
<i>kh-na</i>  or 	<i>kh-ra</i> 	<i>g-ga</i> 	<i>g-da</i> 
<i>g-dha</i> 	<i>g-na</i> 	<i>g-n-ya</i>  or 	<i>g-ra</i> 
<i>gh-na</i>  or 	<i>gh-ra</i> 	<i>gh-ya</i> 	<i>gh-va</i> 
<i>nga-kha</i> 	<i>nga-ga</i> 	<i>nga-gha</i> 	<i>nga-ma</i> 

nga-ya ( )	ngar-k-ra ( )	nga-ra ( )	nga-gh-ra ( )
nga-k-ta ( )	ch-cha ( )	ch-chha ( )	ch-na ( ) or l
ch-ma ( )	ch-ya ( )	ch-ra ( )	ch-chh-ra ( )
chh-ma ( )	chh-ya ( )	chh-ra ( )	chh-va ( )
j-ja ( )	j-na-a ( )	j-na ( ) or l	j-ya ( )
j-ra ( )	j-va ( )	na-cha ( )	na-chha ( )
na-ja ( )	t-ta ( )	th-tha ( )	t-ya ( )
t-ra ( )	t-va ( )	th-ya ( )	th-ra ( )
d-ga ( )	d-da ( )	d-ya ( )	d-va ( )
dh-ya ( )	dh-ra ( )	n-ta ( )	n-tha ( )
n-da ( )	n-dha ( )	n-na ( )	n-ma ( )
n-ya ( )	t-ka ( )	t-ta ( )	t-tha ( )
t-na ( )	t-pa ( )	t-ma ( )	t-ya ( )
t-ra ( ) or ( )	t-na ( )	t-r-ya ( ) or ( )	t-s-ya ( )
th-ya ( )	d-ga ( )	d-gha ( )	d-da ( )
d-b-ra ( )	d-r-ya ( ) or ( )	d-na ( )	d-ba ( )
d-bha ( )	d-ma ( )	d-ya ( )	d-ra ( ) or ( )
d-va ( )	dgh-ra ( )	d-dha ( )	dh-na ( )
dh-ya ( )	dh-ra ( ) or ( )	dh-va ( )	n-ta ( )
n-da ( )	n-dha ( )	n-na ( )	n-ma ( )
n-ya ( )	n-ra ( )	p-ta ( )	p-nd ( ) or ( )
p-pa ( )	p-sa ( )	p-la ( )	p-ya ( )
b-ja ( )	b-da ( )	b-dha ( )	b-na ( ) or ( )

b-ba	b-ya	b-ra	bh-na
bh-ya	bh-ra	m-na	m-pa
m-ba	m-bha	m-ma	m-ya
m-ra	m-ha	y-ya	y-va
r-ka	r-ta	r-va	r-cha
l-pa	l-ma	l-ya	l-la
l-va	v-ya	v-ra	c-cha
c-chha	c-na	c-ma	c-ya
c-ra	c-la	c-va	c-sa
c-ka	c-ta	sh-na	s-pa
sh-ma	sh-ya	sh-ra	s-ka
s-ta	s-na	s-ma	s-ya
s-ra	s-sa	s-t-ra	h-n
h-n	h-ra	h-la	h-va

NOTE:—When there are consonants with three conjunct consonantal symbols, the hooks, circles or loops should invariably be pronounced next to the primary consonant and then the secondary consonantal symbols.

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## IV. STROKE CONSONANTS.

### THE ASPIRATE.

There are two stroke forms given to represent the aspirate *h*, the upward and the downward forms.

The downward form should be used when *h* stands alone or is followed by another *h*, *k*, *kh*, *g*, *gh*, not initially hooked. In all other cases the upward *h* is used especially when followed by a downstroke or a straight upstroke, *n*, *n*, *nga*, *na*, a circle, loop or a hook. If *k*, *kh*, *g*, *gh* or *mp*, etc., is initially hooked and preceded by *h* the upward form should be used. Thus:—*h + kra* , *h + mpr* . Either form may be used to give better outlines. as: Harihara , not Harihara .

When *h* follows another consonant, it must be so joined that the circle of the character may not be mistaken for the circle *s*, thus:—*t + h* , and not *t + s + r* . The chief points to be observed are:—

(a) that it must be so written that the circle and the downstroke cannot be read as *s + ch* , or the circle and the upstroke as *s + r* . Thus:—*m + h* , not *m + s + ch* , *w + h* , and not *w + s + r* .

(b) that the circle of the *h* must be written on the same side of the stroke as when *h* stands alone, Thus:—*t + h* , not .

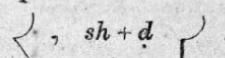
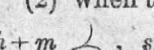
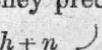
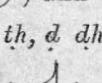
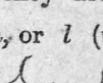
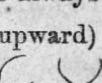
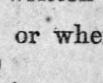
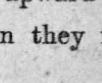
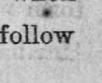
(c) that its finished outlines are precisely the same as when it stands by itself whether the circle part is written with left or right motion. Thus:—*n + h* , *m + h* .

It is also represented by a small slanting tick to the right which is used only initially and is prefixed to the stroke consonants *s*, *c*, *z*, *m*, and the upward *t* and the downward *r*, *pr* *phr*, *br*, *bhr*, *tr*, *thr*, *dr*, *dhr*, *chr*, *chhr*, *fr*, *jhr*:—, , , , ..

As an aspirate is a breathing upon the vowel that follows it, it is also represented by a dot placed before the vowel that immediately follows it in any of the three positions when it is not possible to form facile outlines with the stroke forms for the aspirate: *Dohanam* .

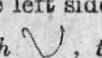
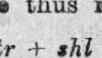
### Sh, Zha, Ksha.

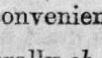
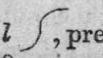
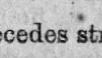
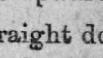
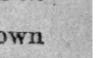
These letters may be written upward or downward. They are always written downward when they stand alone without being joined to another stroke, simple or hooked. When joined to other consonants without any initial hooks, they are written downward:—

- (1) when the *sh* series precede all descending straight consonants simple or hooked: *sh + p* , *sh + d* .
- (2) when they precede all simple horizontal consonants: *sh + k* , *sh + m* , *sh + n* ; and they are always written upward when they precede *f, v, t, th, d, dh*, or *l* (upward) or when they follow *f, v, t, th, d, dh*: , , , , , .

The upward form is to be preferred in the following cases:—

(a) generally after or between the downstrokes thus respecting lineality: *b + shl* .

(b) after the stroke consonants *p, ph, b, bh, t, th, d, dh*, with initial attachment on the left side thus maintaining the equilibrium of the outline:— *pr + sh* , *tr + shl* .

(c) When the angle can be conveniently saved without sacrificing the legibility: *vr + sh* . Generally *sh*, etc., hooked for *r* is written downward and for *l* is written upward or downward. The upward *sh* and the upward *l* must be used when *sh + l* , precedes straight down strokes, plain or hooked: , , .

When *sh* precedes the combinations *fr, vr, fl, vl*, etc., it will be found a convenient mode of distinguishing *fr, vr*, etc., and *fl, vl*, etc., by using the upward *sh* and the duplicate forms of *fr, vr*, etc., and by using the downward *sh* whenever the lefthand forms for *fl, vl*, etc., occur. Generally the downward forms are used medially and finally.

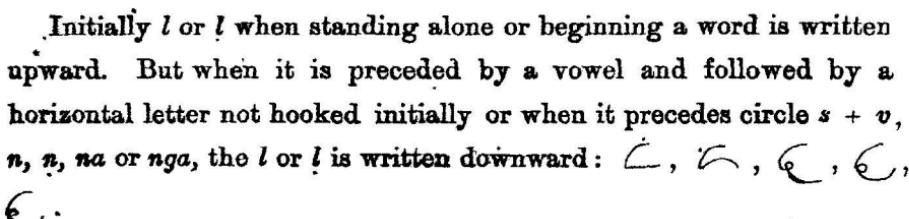
Zha should invariably be written downward; the upward form should be avoided as far as practicable and should be used very rarely.

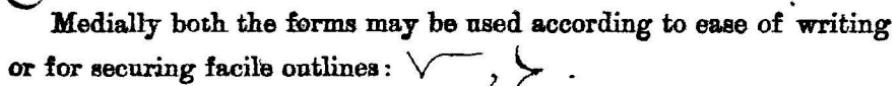
### The Stroke Forms of R, R, L, & L.

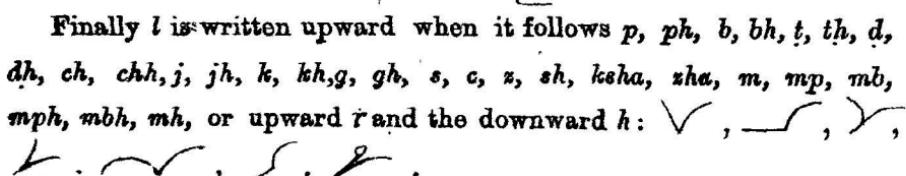
For each *l* or *l* and *r* or *r* two forms are given, one upward and the other downward. The present subject is to fix when the two forms may be used with advantage. The object for giving the duplicate forms is for the sake of ease of writing, and for securing flowing outlines without retarding the speed.

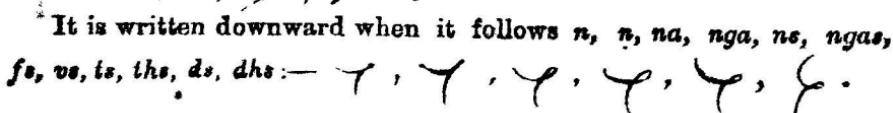
The upward forms for *l* and *r* should invariably be avoided and if at all used, they must be used only in very rare cases.

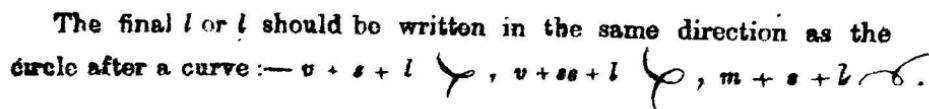
### L and L.

Initially *l* or *l* when standing alone or beginning a word is written upward. But when it is preceded by a vowel and followed by a horizontal letter not hooked initially or when it precedes circle *s* + *v*, *n*, *n*, *na* or *nga*, the *l* or *l* is written downward: 

Medially both the forms may be used according to ease of writing or for securing facile outlines: 

Finally *l* is written upward when it follows *p*, *ph*, *b*, *bh*, *t*, *th*, *d*, *dh*, *ch*, *chh*, *j*, *jh*, *k*, *kh*, *g*, *gh*, *s*, *c*, *z*, *sh*, *ksha*, *zha*, *m*, *mp*, *mb*, *mph*, *mbh*, *mh*, or upward *r* and the downward *h*: 

It is written downward when it follows *n*, *n*, *na*, *nga*, *ne*, *ngas*, *fs*, *vs*, *ts*, *th*, *ds*, *dhs*: 

The final *l* or *l* should be written in the same direction as the circle after a curve: — *v* + *s* + *l* 

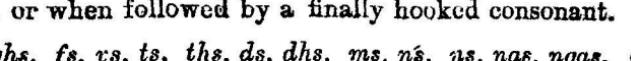
### R and R.

Initially, *r* is written upwards if it is preceded by a vowel and followed by *t*, *th*, *d*, *dh*, *ch*, *chh*, *j*, *jh*, *t*, *th*, *d*, *dh*, *w*, *kl*, *khl*, *gl*, or

ghl, because the writing of the downward form is ungainly and almost invisible and the writing of upward form makes a sharper and more easily written angle than the downward one. Generally the downward form may be written when it is followed by *m*, *mp*, *mb*, *mph*, *mbh* or *nh*:- 1, 1, 1, /, /, /; 1, 1, 1.

Medially, both the forms may be used. But generally in many cases the upward *r* is written as it supplies the most facile form :—

Finally, *r* is written upward or downward. It is written upward when it is preceded by two descending strokes or by a straight upstroke, or when followed by a finally hooked consonant. After *ks*, *khs*, *gs*, *ghs*, *fs*, *rs*, *ts*, *ths*, *ds*, *dhs*, *ms*, *n̄s*, *ns*, *nae*, *ngas*, downward *l* or *t* with circle *s*, upward *r* with circle *s*, *w*, *y*; upward *h*; *p*, *ph*, *b*, *bh*, *t*, *th*, *d*, *dh*, with final left hooks, the *r* is written upward:



## V. VOCALISATION OF CONJUNCT CONSONANTS.

In order to secure easy, facile and legible outlines and to prevent awkward or long joinings even though a vowel intervenes between a primary consonant and the secondary consonant, the secondary consonantal sign of the conjunct consonants may be employed to represent independent consonants in rapid writing. The following principles should be observed in vocalising these conjunct consonants.

The dot vowels are expressed by a small circle placed before or above a consonantal stroke. Thus:— *Karma* , *Kārana* , and the dash vowels are expressed by a small circle placed after or

under the consonantal stroke. Thus:— *Kerulam* , *Khēlanam* . It should however be noted that in the case of *Anuswara* and *Visarga*, the 3rd place dash vowel signs must be used. This method has to be very carefully and judiciously employed and must never be used in words containing less than three consonantal strokes.

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## VI. NOUNS AND VERBS.

The objective case represented by a small wavelike line written below the primary word. — Thus:— *Rama* , *To Rama*

The instrumental case is represented by a small loop with projections added to or disjoined from the primary outline of the noun. & Thus:— *Rama* , *by Rama*

The genitive case is represented by writing the two words which it connects close to each other and in this way indicating the relationship of the one with the other. Thus:— *Rama's cloth*

The locative case is represented by a small cross written adjacent to the word. × Thus:— *Rama* , *in Rama*

The present tense of a verb is expressed by writing the consonantal outline of the verb. Thus:— *Vas* (To dwell) , *is dwelling*

The past tense of a verb is expressed by a small wavelike line written below the primary outline of a verb. — Thus:— , *He lived* .

The future tense is represented by a small loop with projections added or disjoined from the primary outline of the verb. × :— *He is going to live.*

The plural number of a noun or verb is represented by a disjoined light dash at the end of a word below the last consonantal stroke:— *Gajah* (Elephant) , *Gajāh* (Elephants)

## VII. WRITING IN POSITION.

The dexterity of reporting lies in being able, swiftly and correctly, to note in shorthand and to transcribe the same into longhand. As it is very difficult to insert many vowels in fast writing, the writing in position will enable the writer to understand the principal vowel of a word.

As the vowels can be placed in three positions to a consonant namely in the first, second and third positions, so also, it will be found easy to write a consonantal outline in any of the three positions to a line according as the vowel in the word is a first place, a second place or a third place one.

In reporting, single consonants or two consonants of a word must always be written in position: *pa* \, *pi* \, *pu* \, *p-a-t* \, *p-i-t* \, *p-u-t* \, .

The consonantal symbols are of three kinds: *viz* descending, horizontal and ascending strokes.

A sloping consonant, when stands alone or is followed by any consonant, admits of three positions: *v-a-t* \, *v-i-t* \, *v-u-t* \, .

If a straight or sloping consonant is made twice its usual length it admits of only one position *i.e.* through the line: — *tt* |, *vv* |.

An upstroke standing by itself with or without the initial or final appendages or is followed by any consonant takes three positions: — *w-a* \, *w-i* \, *w-u* \; *y-a* \, *y-i* \, *y-u* \; *l-a* \, *l-i* \, *l-u* \.

A horizontal stroke takes only two positions, above and on the line: *k-a* \, *k-i* or *k-u* — or —; *m-a* \, *m-i* or *m-u* \, or \.

A horizontal stroke followed by an upstroke takes all the three positions: *k-a-r* \, *k-i-r* \, *k-u-r* \; *k-a-l* \, *k-i-l* \, *k-u-l* \.

Words containing three or more strokes need not necessarily be placed in position. Position must be determined by the suggestive vowels in words containing two or more vowels. The initial vowel of every word must be indicated.

## VIII GRAMMALOGUES.

Short words of frequent occurrence which are represented by a part of their outlines only are called grammalogues or letter-words; and the shorthand characters representing them are called logograms or word-letters.

Pronouns are the most frequently occurring words and unlike the English Language, the mode of addressing in the singular number of the 2nd and 3rd persons of the pronouns is different in the Indian vernaculars. If the addressee is a younger person, or of a lower rank or is intimately acquainted with the addressor, the singular number is used; but if he is an elderly person, or of a higher rank or is not sufficiently acquainted with the addressor, he is addressed honorifically. Moreover although the same phonetic symbol is given for the pronouns both for the singular and plural numbers, they can be readily distinguishable as a light dash is added to represent the plural number as in the case of other words. The gender of the pronoun will be indicated by the verb governing it. The reason for using the same symbol for masculine, feminine or neuter gender is that either the verb will readily indicate the gender of the pronoun which it governs or the context must naturally suggest the gender.

Before writing the following grammalogues, the student is required first to note down in the vernacular the corresponding word or words which each grammologue represents at the lefthand side of his note-book. He should write the phonographic symbol next to the corresponding word or words and write the symbol over and over again loudly repeating simultaneously the corresponding vernacular word or words until he is able to note down every grammologue mechanically without the least mental exertion or any hesitation.

\* represents that the pronouns represent also the objective, instrumental, possessive or vocative case.

I	Him	One, Once
Myself	Her	Sometimes
We	It	But
Ourselves	His	On, Above
Me	Her*	First, Firstly
Us	Its	All, Always
Mine	That	Therefore
My	Those	However
Our	This	Because
Me*	These	Without
You	That	Other
Yourself	This	So
Yourselves	Those	If so
Your	These	Why
You*	Who	Whether
He	Which	Whither
Himself	Who	How
She	Which	When
Herself	Whom	
It	Whose	
Itself	Permanent	
	Permanently	

What	Large, Great	Whole	(2)
Beyond	Small, Little	Part	(1)
Principle	Chairman	Half	(2)
Chief (adj)	President	Youth	(2)
Principal	Gentleman	Young	(2)
Special	Difficulty	As or So as	(1)
Each	Difficult	According to	(2)
Assistance	Difference	Merchant	(2)
Assistant	Cheer	Trade	(3)
Assist	Bravery	Significant	(2)
Assisted	Brave	Significance	(3)
High	Manufacturer	Secret	(1)
Here	Manufacture	Advantage	(1)
There	Opinion	Several	(1)
Man	Nation	Nature	(1)
Holy, Sacred	Trial	Natural	(2)
Father	Try, Tried	Word	(1)
Brother	Come	Somewhat	(2)
Mother	Go	No, Not	(3)
Sister			

Near	6	(2)	Disloyal	7	(2)	Thank (noun)	(w)	✓w
Never	7	(3)	Am, Is, Are	8	(1)	Thank (verb)	{	1st person ✓w
Some	9	(1)	Was, Were	9	(2)		2nd "	✓w
Someone	9	(2)	Sight	9	(1)		3rd "	✓(s)
Only	7	(2)	See	{	1st person (1)	Approval	6	(1)
Buy	6	(2)		2nd -,, -	(2)	Approve	{	1st person (1)
Sell	6	(2)	Use (noun)	7	(1)		2nd -,, -	(2)
Profit	7	(3)	Use (verb)	{	1st person / (1)	Gift	6	(1)
Loss	7	(2)		2nd -,, / (2)	Give	{	1st person (1)	
Gratitude	7	(1)	Thought	{	3rd -,, / (3)		2nd -,, (2)	
Ingratitude	7	(2)	(noun)				3rd -,, (3)	
Loyal	7	(1)	Think	{	1st person / (1)			
			(verb)	2nd -,, / (2)				
				3rd -,, / (3)				

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## IX CONTRACTIONS.

This is a very difficult principle. It seems to be unfortunate that as far as the Phonography is concerned, the Indian classical and vernacular languages contain such a large number of compound words as to carry the pen too far from the line or to compel the phonographer to form very long outlines which are likely to retard the speed. Some general principles are given below for forming contractions i.e., writing words with less consonantal outlines than they really ought to contain.

Contraction means the shortening of something. In writing a word, shortening will naturally mean to omit certain consonants in that word. It is absolutely necessary to keep the initial consonants in words and the medial or final consonants may be omitted. The contractions are devised in order to introduce facile outlines when writing fast, and the hand may not be hindered in its forward motion in writing long outlines of words. The difference between a consonantal grammologue and a contraction is that the former is represented by only one consonantal stroke and the latter by more than one stroke. The rules regarding the writing in position apply to contractions also.

The principles to be observed generally in formulating contractions are :—

- (1) *P* or *B* may be omitted between another *P* or *B*, *M*, or *T* and *Sh*;
- (2) *T* or *D* may be omitted between *C* or *S* and another consonant;
- (3) *T* or *D* may be omitted between two down strokes.
- (4) *K* or *G* may be omitted between *Nga* or *Na* and *T* or *Sh*.
- (5) If the same word is repeated in a sentence, write the first stroke consonant of the first word and place it disjoined before the second word which should be written in full.

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## X. FIGURES

Ten is represented by a small dot placed by the side of the numerical figure to which it belongs. Thus:— $1\cdot = 10$ ,  $9\cdot = 90$ . &c.

Hundered is represented by a small straight horizontal stroke placed by the side of the numerical figure to which it belongs. Thus:— $1- = 100$ ,  $3- = 300$  &c.

Thousand is represented by a small straight horizontal stroke placed under a numerical figure to which it belongs:  $\underline{1} = 1000$ ,  $\underline{5} = 5000$ ; and hundred thousand by a slightly sloping straight stroke to the right by the side of the numerical figure:— $5/ = 500,000$ ,  $9/ = 900,000$ .

In round numbers the principal monitory units are expressed by the addition of the shorthand characters for Rs. etc. joined or close to those used to represent hundred, thousand etc. Per cent may be represented by a sloping straight stroke to the left written immediately after the figure to which it belongs:  $12\backslash = 12$  per cent; and per annum is represented by writing two small straight strokes:  $12$  per cent per annum =  $12\backslash\backslash$

Half is expressed by a small straight stroke placed above the numerical figure to which it belongs. Thus  $\bar{5} = 5\frac{1}{2}$ ;  $\bar{17} = 17\frac{1}{2}$ ;  $\bar{119} = 119\frac{1}{2}$ , &c.

Three-fourths is expressed by a small straight stroke with a final tick on the right placed above the numerical figure to which it belongs. Thus:— $\bar{5}^7 = 5\frac{3}{4}$ ;  $\bar{17}^7 = 17\frac{3}{4}$ ,  $\bar{119}^7 = 119\frac{3}{4}$ , &c.

One-fourth is expressed by a small straight stroke with a final tick on the left placed above the numerical figure to which it belongs. Thus:— $\bar{5}^4 = 5\frac{1}{4}$ ,  $\bar{17}^4 = 17\frac{1}{4}$ ,  $\bar{119}^4 = 119\frac{1}{4}$  &c.

The other fractions should be expressed numerically.

## XI PUNCTUATION.

Two slanting strokes are used to represent a full stop: // ; and a dash with ticks on both ends represents parenthesis: ——. Emphasis is marked by writing two wave-like lines underneath the word or phrase or sentence: ~~~~~. The other stops such as coma, colon, semi-colon etc. must be written in the usual way.

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## XII GENERAL HINTS ON THE PRINCIPLES.

There are two great principles in the art of Phonography which must be regarded as fundamental. They are *legibility* and *facility or speed*. They have been placed in this order to indicate their relative importance. Legibility should not be sacrificed in order to acquire speed. The principles which have been laid down in this book will be found to fall under one of these two great principles on the whole. In choosing outlines, the phonographer has no other guide than these two ultimate principles and much delicacy of judgment is required in order to preserve judiciously both legibility and facility.

### I LEGIBILITY.

Three distinct qualities are necessary to help this principle viz., *suggestiveness*, *distinctiveness*, and *clearness of outlines*.

It is very necessary to draw a line of distinction between suggestiveness and distinctiveness of an outline. To make an outline distinctive alone is not sufficient; it must also be suggestive; it must not only fail to suggest other words than the right one but it must also not fail to suggest the right one. The suggestiveness of an outline depends upon the syllabification of the word or words; syllabification means writing of outlines in such a way so that they shall as far as possible be suggestive of the several syllables of those words. The

distinctiveness of an outline depends upon the various devices employed such as writing in position, insertion of initial and final vowels, and by the different methods employed of expressing the conjunct consonants and their vocalisation.

Clearness of an outline is largely a question of style with one most important rule added to it, viz, the rule forbidding joining of half length or double length stroke to another stroke unless a good and visible joining is obtainable.

## II FACILITY OR SPEED.

The principles underlying this are *forward motion*, *leniality* and *the balance principle*.

*Forward motion*.—This is a generally recognised principle governing the choice of outlines, a backward stroke evidently checking the free motion of the hand and so reducing speed.

*Leniality*.—The principle of keeping to the line. This is an essential element for saving time. The definition of leniality may be taken as implying two strokes above the line and one below the line in a word.

*The balance principle*.—This principle has a considerable influence upon the choice of outlines and is responsible for a number of rules written or unwritten. The whole form of a word must spring naturally and easily from the pen, no letter as far as possible being a hindrance to the writing of the following strokes and the tendency to the curvature of straight letters being reduced to a minimum.

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### XIII. METHOD OF PRACTICE.

The object of learning this art is to be able to take down all that is spoken out by a speaker. A person well acquainted with the art is able to take it all down in shorthand and to render into longhand a verbatim transcript accurately. The man's power does not lie in taking shorthand notes alone which, without a correct transcript, is of no value. There is no use in cramming the principles enunciated in this system. Calmness, patience and self-confidence in the mind of the learner alone can make the art a success. Every student must make it a point to practise the art every day for at least not less than an hour. The whole of the principles upon which this system is built must be understood thoroughly first. As each principle is being learnt, the student should find out the vernacular words which involve a particular principle and write them over and over again. Care must be taken while practising that the outlines are not written very large or too small. The outlines should be of such a size that they may be easy to distinguish between a half-length and a double-length, and between thick and thin strokes. The grammalogues should be so learnt that the phonographer must be able mechanically to note down the symbols while taking notes.

Regular and continuous practice of writing and of reading over and over again what is written in shorthand is the only way to attain the really useful speed and there is no royal road or short cut to learn this art. The student must never rest contented with mere dictation practice alone. He must make it a rule—a very sacred rule—to transcribe into longhand all his notes every day and compare them with the original. The secret of attaining good speed is the faster one is able to read a shorthand matter even, his own notes, the better will he be able to acquire good speed. As this book treats only of the general principles to be followed for writing phonographically in all the vernacular and classical languages, it is suggested that the student

will make it a point to devote a portion of his practice in writing in shorthand the vernacular words from a dictionary; and as there is no vernacular journal in shorthand, at present, two or three paragraphs from a vernacular newspaper, containing not less than 500 words, should be written in shorthand accurately every day and read several times without the aid of the original newspaper. Every student is expected to follow the above suggestions.